

OCTOBER, 1924

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• THE • AMERICAN • SCANDINAVIAN REVIEW

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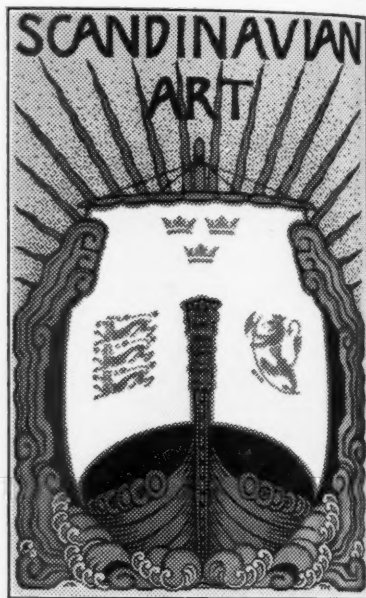
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WALDEMAR SWAHN has made a study of the old palaces and manors of Sweden and the life that was lived in them by the generations that are gone. In his numerous works of fiction he has either recreated the past, or he has chosen subjects from those quiet corners where everything still goes on in the tenor of bygone days, with the central figure perhaps some lonely old lady who still lives in the traditions of the past.

CARL STÖRMER, professor of mathematics in the university at Kristiania, is the author of a long series of books on scientific subjects. Lately he has published a small book in which he has presented in fascinating manner for ordinary readers the sensational scientific discoveries of our time, discoveries that have extended our knowledge of the immense spaces of the firmament as well as of the inconceivably small parts of the atom. The book takes as its starting point the observatory at Mount Wilson, where Professor Störmer studied for some months as a Research Associate of the Carnegie Foundation. The present article is based on the part of

his book relating to his own special field, the Northern Lights.

GUSTAV AF GEIJERSTAM has been introduced to American readers through his intimate story of married life, *The Book about Little Brother*, translated by Edwin Björkman and published in the SCANDINAVIAN CLASSICS series. The short story published in the REVIEW to-day belongs to another phase of his authorship. In order to understand peasant life, he tried to live among the poorest of them, sharing their hardships and eating their food. "Two themes seemed in particular to fascinate him in dealing with the humble tillers of the soil," writes Mr. Björkman, "first the cramping harshness of their conditions; and second, the dark remnants of the primitive, almost savage instincts that linger in their souls ready to break out whenever the pressure of external circumstances favors their release."

SIGNE TOKSVIG will be remembered by readers of the REVIEW for her contributions on current Danish literature.

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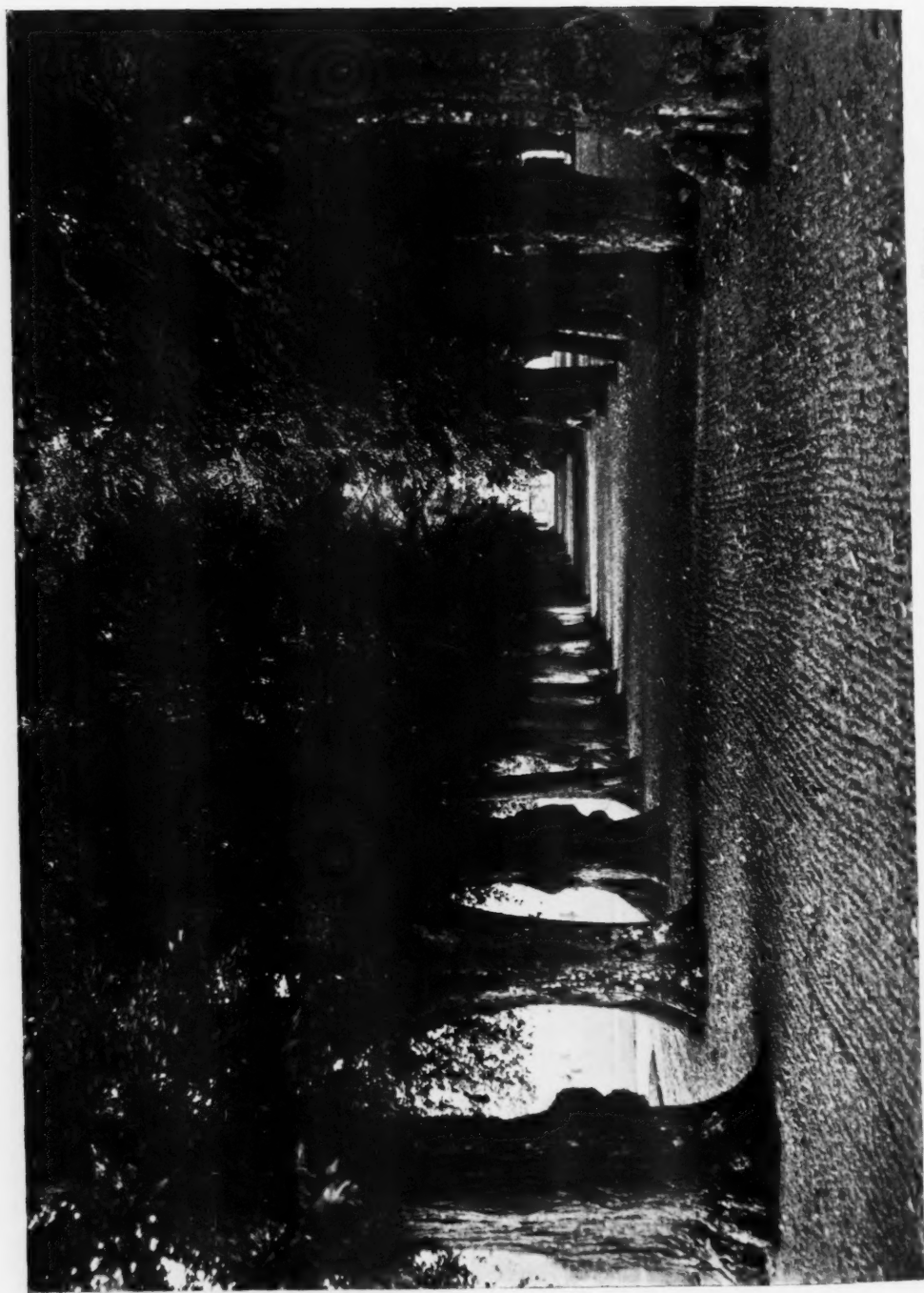
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THE FORMAL GARDEN OF BROTHINGHOPE IS FLANKED BY A LAKE OF CHAINED OLD TREES

THE AMERICAN-SCANDINAVIAN REVIEW

VOLUME XII

OCTOBER, 1924

NUMBER 10

Pleasure Palaces Near Stockholm

By WALDEMAR SWAHN

THE VISITING stranger who comes to the North expecting to see a land of arctic snows, who knows little about Suezia, la Suede, or Sweden except that it was once ruled by a king who went to Germany to fight for Lutheranism and by another whose exploits were spectacular enough to win the attention of the great skeptic Voltaire, —who has an inkling that Sweden in our day has some connection with safety matches and telephones—such a visitor will be amazed to find a fully modern state developed on an historic foundation still evident in the splendid monuments of the past. Among these witnesses to Sweden's ancient glory none are more impressive than the royal pleasure palaces. They not only reflect the times in which they were built as well as the character, tastes, and aspirations of our rulers and their consorts, but they speak of the past in a language more eloquent than that of museum collections or the chronicles of historians.

During the Vasa period, the Renaissance of Sweden, we do not meet pleasure palaces properly speaking. Stockholm was not then *the* royal residence in the later sense of the word. The monarchs were under the necessity of moving about from one palace to another. Taxes had to be collected *in natura*, and as there was not yet any central administration, their majesties had to see to the matter in person. In this way the royal family had no lack of country air the year round.

It was Johan III who built what may be called the forerunner of the later pleasure palace, when, to please his wife, Katerina Jagellonica, he erected a house of stone in a spot that especially charmed her. In honor of the queen it was given the name Drottningholm.

At that time Gripsholm, the famous castle which is now in a sense a



GRIPSHOLM, THE SWEDISH PANTHEON, HAS BEEN SOMETIMES A PLEASURE PALACE, SOMETIMES THE PRISON OF KINGS

Swedish Pantheon and has been in turn a pleasure palace and a prison of kings, was still a royal residence. Though there has been a palace on the site from very ancient times, the present building was begun by Gustaf Vasa and finished by Carl IX who reigned in the first part of the seventeenth century. The exterior then received that imposing and picturesque character which still captivates children of a later day. Gripsholm deserves its title of *ödenas slott*—the palace of destiny. The dreary tower room is shown there where the deposed monarch, Erik XIV, Gustaf Vasa's son, was imprisoned for many years by his brother Johan III, who formerly had himself been confined there by Erik.

Architecturally Gripsholm like the other Vasa castles—Kalmar, Uppsala, and Vadstena—has the character of a fortified stronghold, but the visitor who will take a stroll through its sumptuous halls will be able to follow the development of Swedish artistic taste from the Vasa period, through the Gustavian and Carolinian eras down to the time of the Bernadottes. Renaissance and rococo are represented, and the best paintings produced in Sweden in the sixteenth century are hung there.

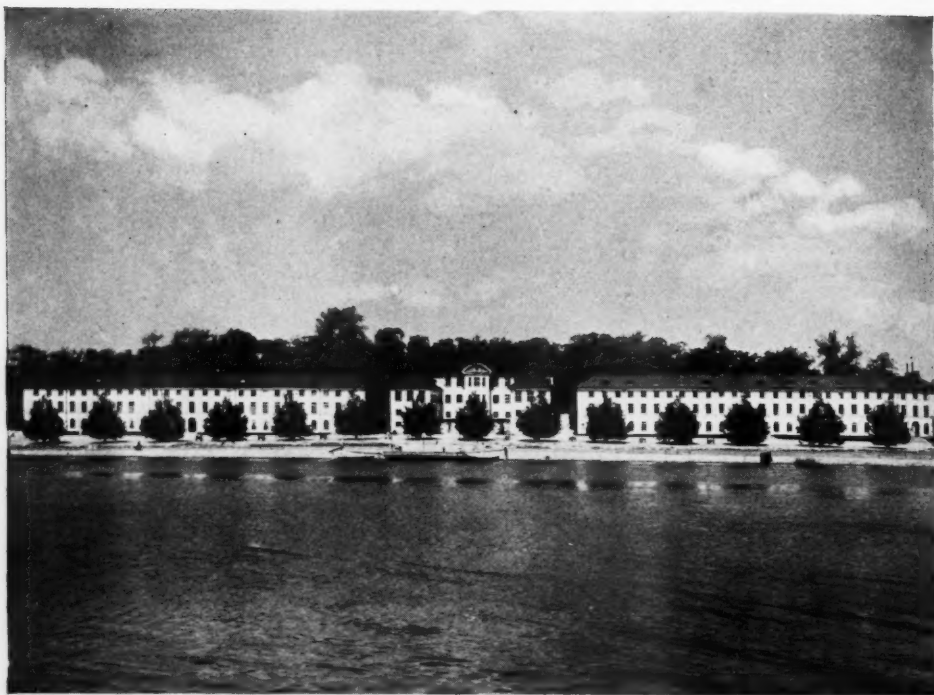
Unfortunately much of the atmosphere of the place was destroyed by the restoration instituted by Oscar II, but much remains. Of the parts that retain their original form, particular interest attaches



DROTTNINGHOLM, BUILT BY HEDVIG ELEONORA, THE "MOTHER OF THE CHARLESSES," IS STILL USED TO ENTERTAIN GUESTS OF ROYALTY

to those used by the royal charmer and patron of arts and letters, Gustaf III, and his gifted mother, Lovisa Ulrika, whose dowager seat it became. In the days of Gustaf III Gripsholm was a favorite pleasure palace of royalty, and in his "round salon" together with the Queen's apartments we see a reflection of this most brilliant period of the Swedish court. As we pass through the magnificent rooms, with beautiful smiling women and haughty cavaliers clad in satin and velvet looking down at us from the walls, we could fancy that the shadows of the past still lingered there. An atmosphere of the past is felt also in Duke Fredrik Adolf's apartment which received a tinge of romance from the "privileged" residence there of his mistress, Sophie Hagman. Not far from this is the theatre of Gustaf III, one of the most beautiful halls not only in Sweden but in the world. The decorations by Desprez are still standing on the stage as they were in the days of the royal actor and playwright.

It was Drottningholm, however, that became the first real pleasure palace of Sweden, and it was the Dowager Queen of the Realm, Hedvig Eleonora, "the mother of the Charleses,"—a magnificent figure of the baroque age,—who raised for herself a *monumentum aere perennius* when she ordered the erection of the beautiful château in which guests of the royal family and of the nation are still worthily entertained. Instead of the old Jagellonica Drottningholm, which had



KARLBERG, ANOTHER DE LA GARDIE CASTLE, BECAME THE HOME OF THE CHARLESES; THERE CHARLES XII WAS BORN, AND THERE HIS BODY LAY IN STATE

burned down in 1661, she allowed the great architect, Tessin the Elder, to create a new building in which the style prevailing in Sweden's Period of Grandeur was mingled with that of the French baroque. It was, however, the efficient Germans who did most of the work on the interior, and the gigantic paint-brush of Ehrenstrahl here celebrated its greatest triumphs. In cool, serene dignity the white palace looks out over the formal garden in which the straight lines and mathematical flower beds receive a particularly pleasing grace from the linden trees that for centuries have drooped their branches over it. Some one has said that there is a suggestion of long, heavy, sweeping hexameters in the stately façade with its regularly repeated pilaster motif under the sharply cut or softly rounded profiles of the copper roof. No other palace speaks of that great Carolinian age in the same authoritative voice as the Drottningholm of Hedvig Eleonora. Of its three memorial halls one is given over to mementoes of Charles XII and the valiant Charles Men. The name of another queen—just as gifted and proud as Hedvig Eleonora was clever and forceful—is forever linked with Drottningholm. Lovisa Ulrika enlarged the castle, and under her and her brilliant son this Versailles of Sweden had its most resplendent period. It was here that Lovisa Ulrika established her Academy of Letters and here that Gustaf III held court with sumptuous banquets,



ULRIKSDAL, ONCE OWNED BY THE DE LA GARDIE FAMILY, AFTER MANY VICISSITUDES, IS NOW RESTORED AS THE HOME OF THE CROWN PRINCE AND HIS BRIDE

stately tournaments, and gorgeous theatrical performances. In the time of the queen and her son the four wings were built which, together with the theatre, formed a small court. This has furnished the model and inspiration for many a Swedish manor, and with its fine lines is one of the most beautiful structures we have from the Gustavian age—an age filled with the spirit of Mozart and the graces. Quite recently the old theatre has been restored in its original form, and at the bidding of the queen old furniture has been rescued from the dusty obscurity of the attic and used to complete the interior furnishing of the palace.

An even more distinct flavor of the rococo age with its borrowings from the Orient, and an even more intimately personal illustration to the memoirs of the day, may be found in the tiny pleasure palace, China, which adds a fantastic note to its nook of Drottningholm park. It was originally built of wood, completed in the arsenal yard of Stockholm, and moved secretly in the night to Drottningholm in order to be presented as a gift to Lovisa Ulrika on her name-day—a surprise exactly in the royal taste of the day. It was later copied in stone under the direction of the architect Adelcrantz. To any one who loves to steep himself in the atmosphere of that age, "China" offers an endless stimulus to creative imaginings. The subtle grace and fine artistic



THE GUSTAVIAN PLEASURE PALACE, "CHINA," IS TUCKED AWAY IN A CORNER OF DROTNINGHOLM PARK

feeling of the interior are a delight, and the drawings and water colors by the gifted queen and her talented son charm, not because they have much to do with art, but because they are full of personal historical interest.

Drottningholm has been the property of royalty. It came for a while into the hands of

the de la Gardie family through the marriage of Magnus Gabriel de la Gardie with the sister of Karl X Gustaf, Maria Euphrosyne, who received it as a present from her sister-in-law Dowager Queen Hedvig Eleonora. Although Magnus Gabriel himself was not of royal birth, he could vie with princes of the blood in fortune and position, and his court was almost as splendid as if he had been a reigning monarch. If Drottningholm was a royal gift, it was also a palace worthy of royalty that he turned over to Hedvig Eleonora.

This grand seigneur owned among other things two manors which were destined to become royal pleasure palaces, Karlberg and Ulriksdal. The latter, which was originally called Jakobsdal and is the third in order of our Swedish pleasure palaces, has older antecedents than Drottningholm. It was built by Magnus Gabriel's father, the general, Jakob de la Gardie, and came into the



HAGA, THE FAVORITE RETREAT OF GUSTAF III

hands of Hedvig Eleonora in 1669. She gave it to her grandson, Prince Ulrik, after whom it was renamed Ulriksdal, but when the little prince died, the Queen Dowager of the Realm took it again and kept it for her own use until her death. It was she who built both wings, and in this her favorite home she gathered the "treasures" she had collected in her long life.

The Ulriksdal which has recently been restored to receive the present Crown Prince and his bride has not much left of its seventeenth century appearance. Two other queen dowagers and one painter king have all transformed the palace on the beautiful shores of Edsviken in accordance with their taste. It was Carl XV who saved it from destruction, after it had been used as a home for war invalids for twenty-seven years, when in 1856 he moved there with his art treasures and his bright sunny temperament. Among mementoes from the time

of Gustaf III is the Beylon house, named after Lovisa Ulrika's Swiss tutor—the tactful private diplomat who was the wise and silent confidant of the whole royal family.

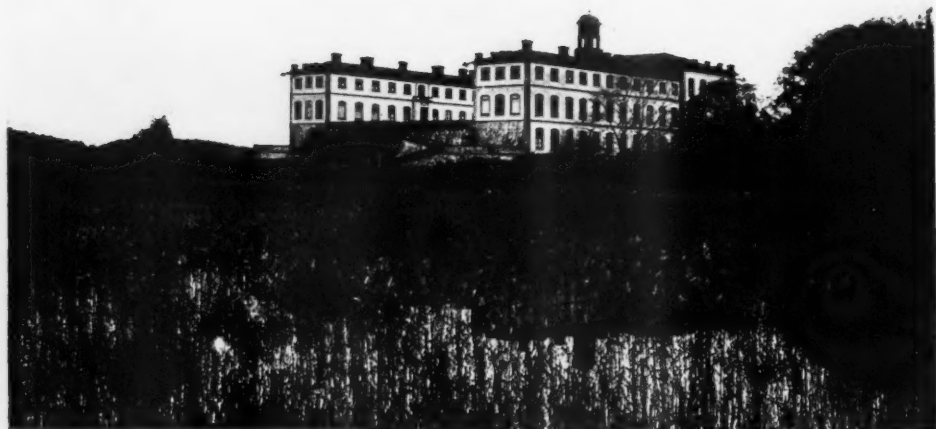
The Karlberg manor was improved by de la Gardie under the direction of the architect Jean de la Vallée, and when it was taken over by the Crown it was eminently fit to receive the royal family. Karlberg is especially associated with the kings of the Carolinian era. Here Charles XII grew up as a child, and



THE COPPER TENTS AT HAGA



A ROOM IN HAGA PLEASURE PALACE



TULLGARN, SWEEPED BY THE WINDS OF THE BALTIC, IS A FAVORITE SUMMER RESIDENCE OF THE PRESENT KING AND QUEEN

here his body was placed in state before being laid to rest in Riddarholm church. The wings added in 1790, when the palace was changed to a military academy, have not been able to spoil the graceful baroque palace of Count Magnus Gabriel. During the Gustavian age Karlberg played no important part, but in another park not far away—also on the north side of Stockholm—the most wonderful idyl of the period found its setting—Haga.

The word Haga calls to mind sometimes the king's pavilion drawn by Tempelman and finished in 1790, a building which, thanks to the decorative art of Masreliez, must be regarded, as far as its interior is concerned, as the most beautiful monument of Gustavian style. Or it calls to mind the queen's pavilion which was built by Gustaf IV Adolf after drawings by Gjörwell and was for many years the residence of the Countess of Dalecarlia. Neither of these, however, is the true Haga. The real Haga—Gustaf III's beloved retreat—is still to be found in the little yellow house and in the Turkish pavilion on top of the hill, if we walk along the highway. The Haga of his daring dreams may be seen as a ruin beyond the queen's pavilion, where the foundation of his never-completed palace shows what the royal charmer had intended to make into his Versailles. The Haga of dreams and poetry still speaks to us with the wind rustling in the old trees under whose branches middle class Stockholm disports itself. Haga is certainly of its kind the loveliest and most idyllic pleasure palace in the world.

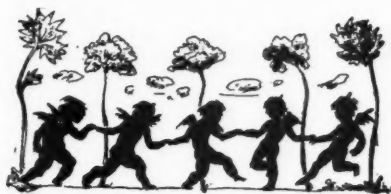
Gustaf III had to buy his Haga, but his younger brother Carl

received Rosersberg, in 1762, from the estates of the realm. Carl XIII willed it to the first Bernadotte on condition that it should be occupied by his widow as long as she lived. Carl XIV Johan's consort, Queen Desideria, afterwards had the castle at her disposal until her death. Rosersberg, which lies by one of the inlets of Mälaren, was built about 1650 and belonged to the Oxenstjerna family.

Tullgarn, the white palace lying in rustic solitude by the shore of the Baltic, is the most beloved retreat of our present king and queen. It became a royal pleasure palace in the same year that Gustaf III staged his revolution. Its history, however, is much older. Even in medieval times we hear of a Tullgarn castle which at one time was owned by Karl VIII Knutsson. The type of architecture is the same as that of other palaces from the seventeenth century, a main building from which extend two rather lower wings united in a cross section so as to form a quadrangle. The present building is from about 1720, and its predecessor is supposed to have dated back to the time of the Sture family. The king and queen of Sweden almost every year spend a part of the summer in this idyllic castle swept by the winds of the sea. Here the Crown Prince built his first boat, and here Prince Wilhelm developed into a mighty Nimrod.

That Carl XIV Johan, who was used to the graceful rhythmic lines of the French palace parks, should be charmed by Djurgården at Stockholm is natural. It is more of a tribute that even the heavily baroque, austere kings of the Carolinian period should be susceptible to its loveliness, so that Carl X Gustaf laid out a pleasure garden there with various kinds of animals, and the taciturn Charles XI was so delighted with it that on one occasion he wrote in his anything but poetical diary: "I was at Djurgården and heard the deer calling."

In the year before he became king, Carl Johan had bought the forester's home and restaurant Rosendal, and there he built his "Tusculum," a little palace in the empire style, designed by the architect F. Blom, and completed in 1829. There the former marshal could take his walks, dream of the great period he had lived through, and, with the aid of pleasant surroundings, strive to regain a much needed tranquillity of mind. The retreat has been well preserved through the efforts of Director Böttiger so that it still stands in the form given it by the first Bernadotte, but now it is no longer a pleasure palace; it is a national historical monument of unique interest set in a bit of genuine Swedish nature.





NORTHERN LIGHTS, PHOTOGRAPHED FROM BOSEKOP, FEBRUARY 28, 1910. IN THE BACKGROUND THE STAR PROCYON

Problems of the Northern Lights

By CARL STÖRMER

Rewritten in English for the REVIEW by E. O. ELLINGSON

THE SUN and the stars radiate heat and light, in the form of vibrations passing through space at an enormous speed, the velocity of light being about 186,300 miles per second. It is now believed that the sun may also produce another form of radiation consisting of rays of countless numbers of minute particles charged with electricity. These rays differ from those of ordinary light, for they are readily deflected from their original straight course under the influence of magnetic bodies such as the earth. A detailed study of these rays has led to information which makes possible a satisfactory explanation of one of the most fascinating mysteries of nature, the Northern Lights.

Norway ranks first in the study of this remarkable phenomenon, having the advantage of location near the Northern Light Zone where the luminescence occurs most frequently. This zone is an oblong belt which surrounds both the geographic and the magnetic pole, passing south of Greenland through northern Canada, Alaska, and to the north of the Asiatic coast.

In the 'eighties the well known lecturer, Sophus Tromholt, collected all the observations on the Northern Lights that had been recorded in Norway from the earliest times. In a masterly description he pictured this wonderful phenomenon as the most beautiful display of colors that human eye is permitted to see.

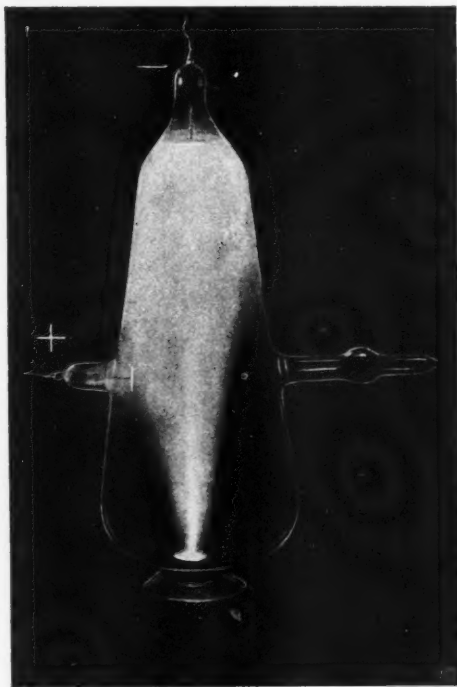
The cause of the Northern Lights remained a mystery, however, until Professor Birkeland, through his brilliant experiments with the cathode rays arrived at conclusions which could be used in formulating a reasonable explanation of the probable origin of this peculiar manifestation of nature. Since a consideration of his work involves reference to the cathode rays, I shall briefly describe these rays.

The cathode rays are streams of exceedingly small, electrically charged particles thrown out through an evacuated space from an electrode sustained at the necessary electric tension. For demonstrational purposes these rays are produced in an oblong, air-tight glass container from which practically all the air has been removed. This vessel or glass bulb is provided with two electrodes fused into the opposite glass walls to permit connection with a suitable source of electricity.

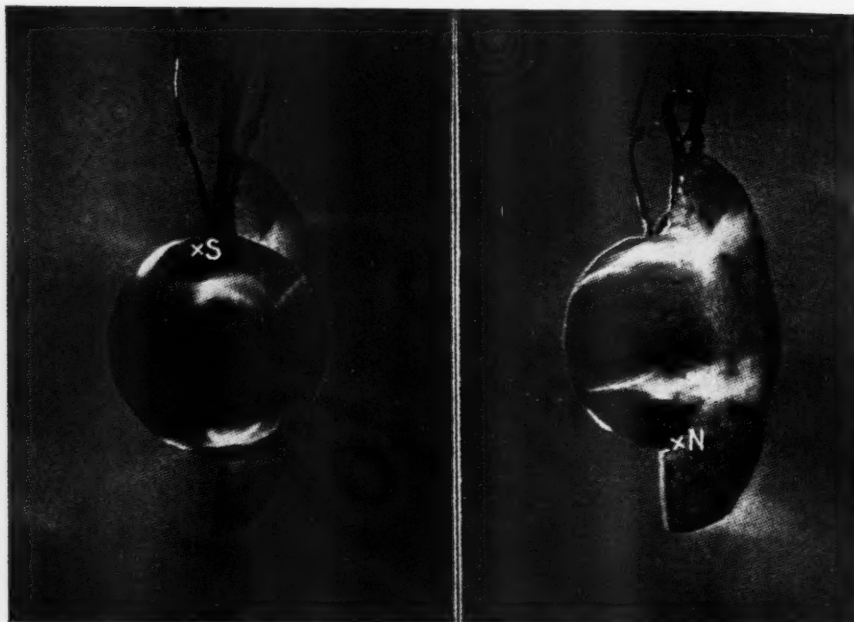
When the bulb is evacuated sufficiently, and the electrodes are connected with the source of electricity, a continuous electric discharge takes place within the bulb in the form of cathode rays which proceed in straight lines from the negative electrode to the opposite glass wall where they strike with a yellowish green light. The negative electrode, also known as the cathode, is often shaped into a circular disk. The small particles which make up the cathode rays are called electrons. They are discharged from the cathode disk in rectilinear paths with a velocity of many thousand miles per second.

The electron is nearly as small when compared with a grain of sand as this same grain of sand is to the size of the earth. Negative electricity consists precisely of such electrons, all of equal size and each one carrying an equal charge of electricity.

Since the electrons are very sensitive to the influence of mag-



BIRKELAND'S EXPERIMENT IN 1896, SHOWING HOW A SINGLE MAGNETIC POLE GATHERS THE CATHODE RAYS TOWARD A POINT JUST AS A LENS BENDS THE RAYS OF LIGHT TOWARD A FOCUS



PROFESSOR BIRKELAND'S EXPERIMENTS WITH A GLOBE SUBJECTED TO CATHODE RAYS. WHEN THE GLOBE IS MADE MAGNETIC, THE RAYS CONCENTRATE IN CERTAIN DEFINITE AREAS FORMING BANDS OF LIGHT RESEMBLING THE NORTHERN LIGHT ZONE AND THE CORRESPONDING SOUTHERN ZONE

netism, the cathode rays could not pass by a magnet without being deflected or thrown out of their original course. Birkeland found in 1896 that a single magnetic pole converges or gathers the cathode rays toward a point just as a sun-glass or lens bends the rays of light to a single point of focus. As a result of his continued study of this phenomenon, he came to the conclusion that probably the Northern Lights are caused by a similar convergence or absorption of cathode rays coming to the earth from the sun.

It is well known that strong Northern Lights occur when a sun spot points in the direction of the earth. Birkeland assumed that long, brush-like cathode rays were shot out toward the earth from such a spot or area, and that in the vicinity of the earth they were deflected from their original path by the magnetic force of the earth, causing the rays to penetrate downward into the upper layers of the atmosphere and produce our Northern Lights. This idea was not entirely new with Birkeland, but he was the first one to seriously try out his assumption in an experimental way.

He prepared a small globe to represent the earth, the surface of which was covered with a material that would give off light when exposed to the action of the cathode rays. Inside the globe he placed an electro-magnet so that this experimental earth could be made magnetic by means of an electric current. The globe was suspended in an evacu-

ated glass case having a capacity of about one thousand liters. When the globe is subjected to the action of the cathode rays, that half of it which is exposed to the rays will give off a uniformly distributed light as long as it remains non-magnetic. But the moment it is made magnetic the rays will concentrate in certain definite areas corresponding to the two polar regions where distinct luminescence is produced.

By means of this ingenious experiment Birkeland proved that the cathode rays proceed toward the two poles, causing a band of light to appear near each one. These bands are situated along the seventieth parallel north and south latitudes, as measured from a point directly opposite the cathode (source of cathode rays), extending eastward on the evening side of the globe, provided the cathode represents the sun. No corresponding luminescence occurs on the morning side.

In this experiment we find definite analogies to the Northern Light Zone and the corresponding zone of the south polar region which presumably exists. Furthermore, the fact that the phenomenon of the Northern Lights appears in the evening and the night, when the sun is on the opposite side of the earth, has been duplicated in a striking way by this experimental device.

For many years Birkeland continued his experiments, investigating further the nature of the Northern Lights, and studying other related phenomena such as the magnetic storms. These storms consist of magnetic disturbances, noticeable by the continually changing positions of the compass needle and the difficulty in sending telegrams because of electric currents flowing in varying directions through the conductors. Such magnetic disturbances are usually followed by strong Northern Lights extending far south beyond the normal boundary.

In 1903 the author became interested in Birkeland's experimental work from a mathematical standpoint and, accordingly, began an extensive mathematical study of this work, the results of which showed a remarkable agreement between theory and facts. The calculations, which involve the application of higher mathematics, will not be considered in this article, but the final results will be described.

Since the earth is a large magnet, and since the Northern Lights may be caused by cathode rays coming from the sun to the earth, it is evident that to find their course becomes a fundamental problem. In other words, the problem resolves itself into finding the path which an electron takes when speeding from the sun in the direction of the earth.

By way of illustration, we may assume a theoretical shooting competition held on the sun with a "cannon" throwing an electron in the direction of the earth. The "cannon" must be aimed so that the electron will strike the earth. There is, however, a great difference between this theoretical shooting and an actual one in which a cannon and a projectile are involved. In the first place, the distance between the sun and the earth is so colossal—being 93,000,000 miles—that an ordinary cannon

ball travelling at the rate of 3,300 feet per second would require about five years to cover the distance. In the second place, the velocity of the electron is approximately 62,000 miles per second, and it will, therefore, travel the total distance in about thirty minutes. Furthermore, the electron is inconceivably small, about one millionth of one millionth of a millimeter in diameter, and the forces which act on it during its approach to the earth are also different from those that act on a projectile. In the case of the projectile the force of gravity and the atmospheric resistance come into play, but in the case of the electron the only force that operates is the magnetism of the earth. This magnetic force throws the electron out of its original course according to a definite law without altering its velocity.

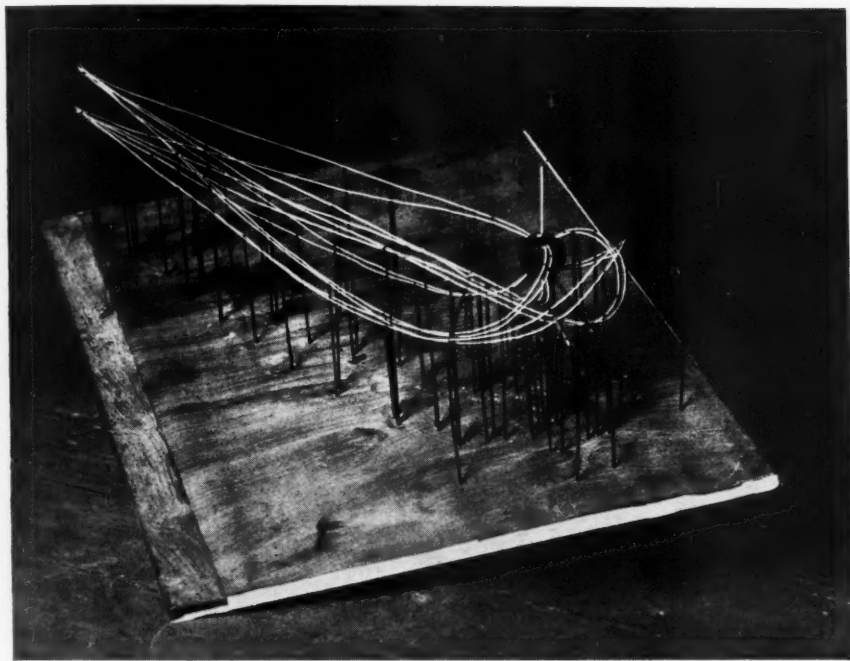
It is possible to calculate the path of both projectile and electron. For every position of the sun and for every given initial velocity and direction of motion of the electron a different course is obtained. Hence, the types of paths are overwhelmingly numerous, and their shapes are much more complex than the relatively simple paths of ordinary projectiles.

The mathematical study of these paths required a considerable amount of rather tedious numerical calculation, the completion of which was made possible through the assistance of students engaged from time to time to perform this task. From 1904 to 1907 about 120 different paths were calculated, an undertaking which took five thousand hours of work and several pounds of folio paper.

The main difficulty in these calculations was to start out mathematically with an electron from the sun in such a direction that its path would strike the earth. As the electron gradually approached the earth, the calculations became more and more exciting; would it pass by without hitting the earth, or would its course have such a shape that by chance it would strike the target just as a cathode ray strikes down into the atmosphere to produce the Northern Lights?

According to calculations, these paths have, in the vicinity of the earth, the shape of spirals, and the nearer the approach to the earth, the closer together the windings of these cork-crew spirals become. These paths finally often reach a minimum distance from the earth, without touching it, and then recede in similarly shaped spirals. The characteristic shape of these paths has turned out to be an essential factor in the detailed explanation of the Northern Lights and related phenomena.

After many trial calculations had been made without obtaining satisfactory results, when the sun was taken as the starting point, this method was discarded, and the computations were made backwards from the earth as a starting point. That is, by following a path that struck the earth and calculating until a distance had been reached equal to the distance of the sun from the earth, the course of an electron could be located which would hit the earth. At the same time we had also dis-



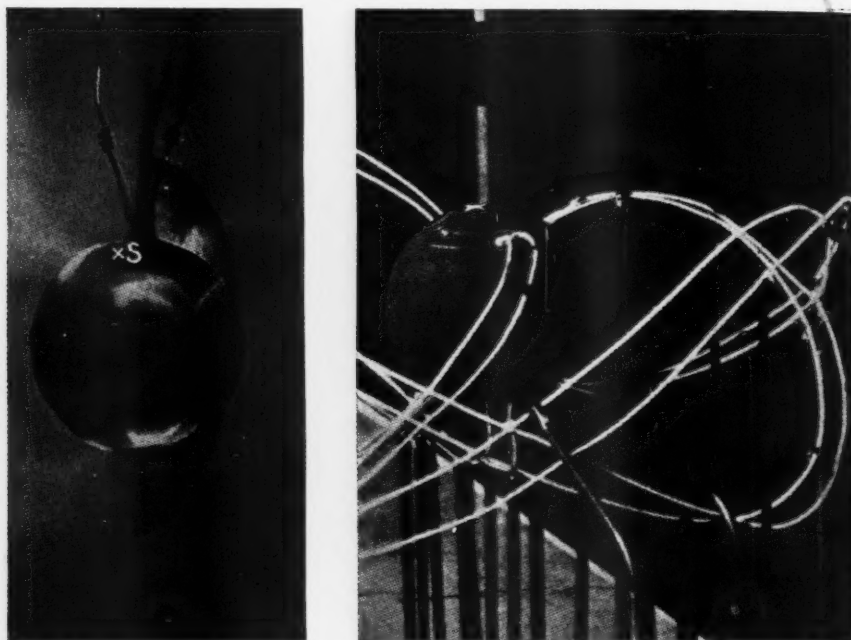
THREAD MODEL SHOWING PATHS OF CATHODE RAYS COMING FROM TWO NEAR-BY POINTS.
THE RAYS STRIKE THE LITTLE BALL AT VARIOUS POINTS IN THE POLAR REGIONS

covered by this method how to aim from the sun, as it were, so as to hit the earth.

Applying this mathematical procedure, a series of paths were calculated, and the results were exhibited in the form of a space model in which the paths were represented by copper wires bent to show their exact shape in space. The model demonstrated clearly that the cathode rays bend around the earth, far out in space, and then, turning more abruptly toward its polar regions, hit the earth on the side away from sun.

The calculations agree remarkably well with Birkeland's experiments, and we note the existence of a beautiful harmony between theory and experimental results. The harmony is not always complete when considering the phenomenon of the Northern Lights in detail, but it is a marked improvement on any previous theory.

Let us now see what the theory will explain. A study of the paths which strike the earth will show that the so-called magnetic axis has something to do with the existence of a definitely located belt corresponding to the Northern Light Zone. The magnetic influence of the earth is exerted on a distant body as though a magnet were lodged at its center. The direction of this terrestrial magnet is a diameter of the earth and is known as the magnetic axis. This axis strikes the surface of the earth in a region about half way between the magnetic and the



HOW THEORY AND EXPERIMENT BEAR EACH OTHER OUT. TO THE LEFT IS THE BALL WITH LIGHT ZONES WHERE IT IS STRUCK BY THE CATHODE RAYS; TO THE RIGHT THE PATHS AS MATHEMATICALLY CALCULATED STRIKING IT IN EXACTLY THE SAME SPOT

geographic pole, somewhere in the northwestern part of Greenland.

The calculated paths of the cathode rays which strike the earth sufficiently near to this magnetic axis come down at such a steep incline that the sun could never have a position corresponding to the source of such paths. The theory also shows that the points where the paths strike cannot be farther away from the magnetic axis than a certain distance, beyond which no path could come from the sun. Hence, we have a theoretical picture of the actually existing Northern Light Zone.

A ray of the Northern Lights consists of cathode rays twisted spirally around a magnetic line of force which, when striking the upper layers of the atmosphere, encounters sufficient resistance to cause luminescence in the air. In a so-called aurora-corona these rays of light seem to converge toward a point which lies in the direction of the earth's magnetic lines of force. A needle suspended at its center of gravity turns in the direction of this point because it must take a position parallel to these lines of force.

At other times the rays are arranged side by side like the pipes of a pipe organ but stretched out into a thin band extending from east to west. This phenomenon can be explained by mathematical analysis. If we assume that a bundle of parallel cathode rays comes from the sun in a direction to strike the earth and if the cross-section of this bundle be a circle, then, by investigating mathematically this cross-section

for certain given positions of the sun with respect to the earth, it will be found that it becomes more and more elongated the nearer the approach to the earth, until finally it has spread out to such an extent that when the rays strike down into the atmosphere they cover a distance from east to west many thousand times that from north to south. An observer on the earth will see the light of this bundle of cathode rays extended into a thin band from east to west.

It is more difficult to explain the actual boundaries of the Northern Lights. Theoretically the luminescence should be located nearer to the magnetic axis than observations indicate. The author has tried to account for this disagreement between fact and theory. From both theory and experiment it appears that the cathode rays have the tendency to form a circle around the earth, analogous to the rings of the planet Saturn.

This circle acts like a big electric current. It is located far out in space, beyond the atmosphere, and is noticeable only through its magnetic effect, particularly during magnetic disturbances. The stronger the current in the ring becomes, the greater will be its force of attraction on the Northern Lights. Since the calculations correspond exactly with experiments on this point, the existence of such a ring seems quite probable. Under ordinary conditions the magnetic influence of this ring is almost negligible but yet sufficient to explain the location of the Northern Lights relative to the position of the magnetic axis. During intense magnetic storms, when the sun throws out more cathode rays than usual, this current becomes stronger and draws the luminescence southward.

The phenomenon of the Northern Lights presents a number of interesting questions to meteorologists and physicists. What is the altitude of the visible effect of this phenomenon? What is the real cause of the luminescence and the colors? What is the nature of the light? What is the condition and composition of the atmosphere up there?

No definite information concerning the altitude of the Northern Lights had been secured when the author took up the study of this question in 1909. The consideration of the problem led to the conclusion that all previous methods of determining the altitude were unreliable and should be replaced by the more dependable photographic method. In preparing for this work it was found that, with suitable lenses and photographic plates, clear photographs of snow-covered landscapes could be secured in moonlight with exposures of five seconds or less, and strong Northern Lights could be photographed with practically snapshot exposures.

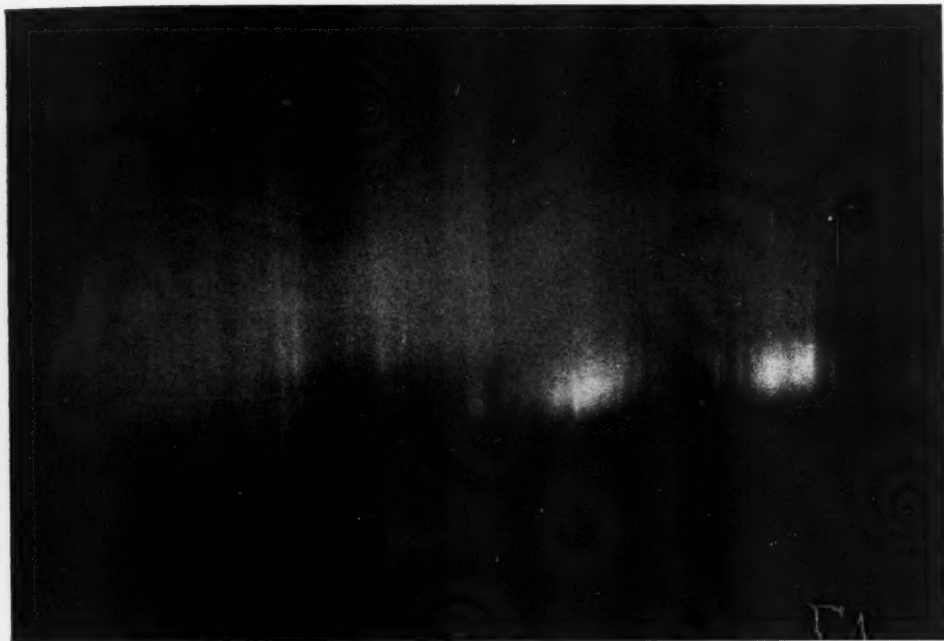
The photographic method of determining the height of the luminescence was carried out as follows: Two stations connected by telephone, about twenty miles apart, are established. Each station is furnished with the necessary instruments. A given constellation of stars



NORTHERN LIGHT CROWN, PHOTOGRAPHED IN KRISTIANIA, DECEMBER 16, 1917

in the vicinity of the Northern Lights is chosen to be photographed at both stations, by signals in the telephone simultaneously, at a given moment and with the same exposure, the time being accurately observed. In this way two photographs of the same stars are obtained, taken from positions many miles apart. On the two plates the Northern Lights will not be in the same position with respect to the stars. From this difference it is possible to calculate the height and location of the luminescence since all the necessary data for such calculation may be secured from measurements on the plates.

The author determined the height of a large number of Northern Lights by this method, finding altitudes varying from 55 to 250 miles. More recently a few cases have been found with altitudes as high as 370 miles. This method has recently been used by Krogness and Vegard, and their results substantiate the author's previous determinations.



GLORIOUS NORTHERN LIGHTS PHOTOGRAPHED IN KRISTIANIA, OCTOBER 13, 1916, LOOKING TOWARD THE NORTH

Concerning the nature of the light accompanying the Northern Lights it can be said that the spectroscope shows that the luminescence produces bright spectrum lines. The process of photographing these lines is very important, since it gives a clue to the measurement of their wave-lengths with sufficient accuracy to insure identification of the lines as corresponding to certain known elements. This problem seems now to have been solved successfully by Professor Vegard. He has photographed and accurately measured more than thirty different spectrum lines of the Northern Lights.

The investigator is confronted by difficult problems here, for some of the spectrum lines are a perplexing mystery. This is particularly the case with the strongest yellowish green line which defies identification. It does not correspond to any line produced by any known element, and various hypotheses have been advanced to account for its existence, but so far it must be regarded as an unsolved problem.

As to the nature of the rays which cause the luminescence of the Northern Lights, Professor Vegard, who has made a detailed study of this question, agrees with the author that the cathode ray hypothesis conforms best with observations. It is, of course, conceivable that certain forms of Northern Lights are produced by the so-called alpha-rays, composed of positively charged particles, or that we may have other rays that are entirely different from those that have been ob-

served. Furthermore, since the sun is a star among probably millions of other stars, it is not at all unlikely that similar radiations of electrically charged particles or electrons originate from these bodies. These are questions which require further study, and we hope that Norway will continue her valuable contribution to science on these and related problems with the same success as in the past.

The Secret of the Forest

By GUSTAV AV GEIJERSTAM

Translated from the Swedish by SIGNILD GUSTAFSON

A LONG way it was out to the reed marsh. Going through dense woods one first took a narrow path which twisted along between the tall pines and sometimes went over bare flat rocks. Where the rocks yielded to level ground, the Whitemoor continued the way. On the hillocks rose the little dwarf pines, and when the sweet willow bloomed, the air was full of spicy fragrance, which attracted the insects. There was also a good stretch of moor to cover, and when the hills shot up again and from their crests one saw the woods grow sparse and the water lie calm and clear as a mirror between the pine-clad shores, the destination was still a long way off. On the other side of the water lay the hut. To reach it on foot one still had a long way to go. But if one stopped by the shore, from which the hut could be seen with its little garden plots and the fir trees in a wreath about the stooping barn and the low dwelling, and if one called loud enough and waited patiently, there would appear on the other side a little bent old man with a red cap and a woolen jacket. He made his way cautiously down the stony incline and pushed out a rickety boat to row over the person calling.

He who rowed over the little lake marveled that it was called the reed marsh, for there was no marsh to be seen—only a little lake which looked cheerful and friendly after the long walk in the dusk of the close pines, which hung full of long, tangled, gray lichens. Nor could any reeds be seen at first. The shores consisted of hard cliffs; in the rich earth above their crests grew pines, which mirrored themselves in the calm lake below. Only far off in the creek where the lake made a turn behind the hills, there grew late in the summer a close, green bank of reeds, in which every spring a pair of wild ducks built their nests and, when their young had been hatched, swam about unmolested on the watery mirror.

Jacob, who sat crouched at the oars, rowing the visitor across,

had never had the heart to shoot with a gun. At least so he said himself, but that is, of course, no reason for believing it.

"When I was young," he used to say, "I did try. But I could never get that far, for it seemed as though I had some defect. I could never learn to squint with one eye. And so the shooting never came off. Now I can squint with one eye or both, but I'm too old to learn how to shoot. Therefore I let that matter rest as it will."

The ducks knew that nobody would harm them. Undisturbed by the boat rowing by, the mother duck and her fledglings swam to the landing. There they looked for leavings of fish and potato peelings; quacked, dived, chattered with one another, and acted like domesticated animals. Jacob had to shoo away the boldest when he wanted to land.

In this way Jacob had rowed many a visitor across the lake, and if the total number was considerable, it was not surprising. For he had lived so long in the hut near the reed marsh that nobody could remember when he moved there—he could hardly remember it himself. Strangers very rarely came to the place. The way was long, and those living in the reed marsh had not much to offer in hospitality. Or rather—when he lived, they had not. Now Jacob has long been dead, and his wife with him. The house is in ruins; the field overgrown with weeds is once more becoming waste country. Nobody who has the choice moves nowadays to so remote and lonesome a spot as the reed marsh. In days gone there were more people who loved solitude and did not fear the wilderness.

Jacob and his wife were two peculiar hermits, such as one still finds occasionally deep in the forest, far from the dwellings of others; and if they had wished to relate all their experiences, they would have had strange things to tell. For Martina was one of those who had seen both the Lady of the Woods and the Neck, or water-sprite; when she wished, she could tell the meaning of the will-o'-the-wisp, which gleamed over the Whitemoor; and for all that whispered and rustled in the woods, or wailed and sighed when the winter night lay starry and clear and cold over the frozen lake, she had both ear and eye. Martina was a connoisseur in such matters and could interpret the witchery with much more precision than anything else which had happened in her monotonous life. But best of all she understood the little folk who busily pattered in bush and thicket, led her on the right path in the forest, and never left her until she had taken the key down from its time-honored place in the chink under the window. Then they all scampered away on light feet, glad to have been allowed to follow her so far. And if the wolf howled then far off under the snowy pines, Martina knew whom she had to thank for getting home unharmed. Jacob always listened silently when his wife told such stories, and it sometimes happened that he nodded emphatically as though to give her words

the support which they deserved and perhaps needed. But usually he made no sign, just sat and stared in front of him, as though he saw what no one else saw, and on such occasions it happened that his face took on a stern, almost embittered expression, as if to say: "Why do you talk about such things to people who have seen nothing themselves? What do such people know of the forest?"

In his youth Jacob had been a charcoal burner, and then he had always earned enough not to be a burden on others. Martina had picked berries, sold reed baskets, helped out in the country houses at Christmas or Easter, and she had always had a good reputation far and wide. She always gave full measure, her berries were always fresh and newly picked, never was there any fear of finding green ones at the bottom on turning out the contents of the basket. Her baskets were well-made and durable, and she was skillful both in baking and butchering, despite living so far from settled districts. The way never was too long for her to come, and if she knew little about what was in books, she had so much more of a different nature, which she gladly related to any one willing to listen.

For that matter, Jacob was a clever enough fellow, too. He had trapped the forest animals and shot them also, in contradiction to his own words. There were those who intimated that when he was young there was nobody who had a surer aim or a swifter hand at a shot than Jacob. His old gun he kept behind the bed, and the tale that he could not squint with one eye in his youth was probably invented because Jacob wanted to choose his own time for hunting and never felt like conforming to the regulations which a mean game law imposed on the citizen. Jacob had, in short, got along well in the old times, and three sons had gone forth from the little home at the reed marsh and become laborers in communities where there was more to earn and where nobody knew what the forest whispered about.

At first Jacob and Martina talked about these children during the long winter evenings when all became so silent around them and nobody ever came to visit. But the years came and went, the White-moor and the lake beneath their windows froze many a time, and many summers the wild ducks came and flew away. Around the old couple it was as quiet as if no children had ever played on the slope down to the lake, and the longer this silence lasted, the closer Jacob and Martina drew to each other, forgot that the outer world existed, and found it only natural that nobody remembered those who long ago had almost forgotten everybody else.

The forest sang its song to the old couple, and what little they asked of life they got, too—until Jacob had to take to his bed. What illness he suffered neither of them knew, but it had begun with a peculiar ache in his legs when he walked far, and one morning when he awoke, he could not support himself but had to cling to the bed.

"I suppose you will have to see to our needs now, Martina," said Jacob. "When I am on my feet again, you can rest."

There was much lacking now that Jacob lay abed. No game was brought from the forest, and no fish was caught in the lake. The wood did not come home by itself, either, and there was no man to help make a hole in the ice. But worst of all was the fodder for the cow. Martina drudged with the sickle, cut and carried home all she could. But it was too heavy a load for her. More than once she sat long hours and cried in the forest because she did not want to cry at home. Jacob lay where he lay, and it was well that he was always patient and good. Otherwise Martina could never have held out.

At last came their greatest misfortune, when the cow died of want one winter, and then Martina had no choice but to go to the settlement and beg. It was hard for her, who had never asked anything of a human being before. She looked small and withered, she walked quickly, and wherever she went, she made as brief visits as she politely could. She never gave herself any rest when she was out. At home lay Jacob, who could not even walk across the floor to stir up a fire if the evening became chilly. And he had nothing to eat but the little she set out for him when she departed. Martina's face looked distorted with grief and worry, as she tramped along with her milk-bottle in her hand, and on her back the beggar's pack which made the dogs come bolting out of the gates barking at her as she made her way up the road.

For two years Martina tramped thus, and all this time Jacob showed no improvement. Nor did his health fail. At last there was no difference between day and night, winter or summer, sunshine or rain. It was all just one long day of misery which seemed to have no end. "If I could only die," Jacob used to say, "then you would at least get along better."

Then Martina was so touched that she could keep the tears back no longer, however much she might wish it.

"What would become of me if you died?" she said.

In her heart of hearts she felt that things could never be worse than they were now. But she could not say that to him lying there so helpless.

Then came a summer's day when Martina, returning from the settlement, was on her way home. It was not much she had with her. For people tire of giving to those who have to ask for help often. And begging is a hard trade for those who find no joy in life. So the sack which she carried on her back was light enough, and the milk-bottle which the little old woman held in one hand was not heavy either. The hot sun beat down upon Martina as she went over the Whitemoor. There the knotberries stood ripening on the hillocks, and far off in the pines the black woodpecker whistled. When she had gone a bit,

Martina had to stoop down to look at the unripe partridge berries. She walked about the places familiar to her, bent over the hillocks, looked and looked. Ah, how many berries there would be! And how many ripe blueberries! The only trouble was that she could not pick them and sell them as formerly at the settlement, for she had not the strength to care for a sick man and at the same time work for two. How quiet and lonely it was here! Martina dropped her pack, put the jug beside her, and sat down. How weary she was, weary of life in general! If the Lady of the Woods would come now and offer her something! Or the one whom she did not want to name even in her thoughts, he who was always ready when a human being was in utter distress! Why didn't he come now? Why did she see nothing?—She who had seen so much! Why didn't she even hear the little folk scamper about in the thicket?—she who had heard so much before. Why was the forest silent? And why was there not a single person who would come home with her and see what a plight she was in, help in her need, and lighten some of the burden that an old woman cannot bear alone?

But the forest was silent around Martina. She heard the pheasant clamor far off in the forest and beat his wings against the fir-trees as he tried to get a footing. She heard the doves cooing with their shrill, creaking noises, and the peculiar bird whose name she had never heard cry like a human in distress. Except for this, all was quiet about her. The forest was silent; she saw nothing but trees, pine needles, sunshine, flies, moss, and gray lichens. The air trembled with heat, and all stood so still about her that she was frightened.

Martina, who had lived her whole life in the forest, who had heard the fox cry in the winter nights and seen the wolf sneak like a gray ghost about the hen-coop on a snapping cold, starry night, was for the first time in her life afraid to be alone in the forest. It was as if the trees stood too near her, as if it had become too silent about her, too empty, too desolate, too calm. Trembling she rose to go. Trembling she hung her sack on her shoulders and took the milk bottle in her hand. Trembling she stopped and listened to this deep silence, which sounded like one long, heavy, unbroken sigh. Uncertain of her own steps, she went on, and did not stop until she had reached the shore where the rickety boat lay. Hastily she got into it and pushed off from land. But Martina felt as if there were hands ready to grasp her as soon as she turned around. The stumps in the forest, the roots, the stones, the crumbling old trees, the moss-grown stones and the junipers which grew round and full of twigs on the edge of the hill—all had life, and all kept still, so still that they filled the air with their silence and were transformed to horrible shapes, which grinned in stony silence at her distress. Swiftly Martina rowed over the long, narrow lake. She heard the wild ducks grumbling, grumbling behind her, the wild ducks which

Jacob had never had the heart to shoot. But she did not turn around to look at them, just drew the boat up on land and ran rather than walked past the alders by the shore up to the hut. It seemed as if the silence of the forest shrieked after her and chased her onward.

Within the hut lay Jacob, as he had lain the last two years, in his bed. When Martina came in, he did not even open his eyes, and, still trembling in every limb after her fright in the forest, his wife went to the stove, filled it with branches and twigs and lighted the fire. It shed its glow over the dark room, where the small windows admitted so little light. But the glow of the fire did not reach the corner where Jacob lay; and where she sat, Martina could not see whether the invalid was asleep or awake.

"Is it you, Martina?" Jacob's voice suddenly made itself heard from the corner behind the window. "You have been away a long time."

"I was tired and sat down to rest in the woods," replied his wife. "How have you fared to-day?"

"As all days," came the answer.

Jacob's voice sounded so clear and mild that Martina had to approach to look at him more closely.

"I must have been sleeping a while now," said the old man. "That's because I've been lying alone so long thinking."

"What have you been thinking of?" asked Martina.

Strange! It was as if the forest had followed her right into the hut and taken its fright with it.

Jacob moved his head to see better. Now the light fell over his face. It was thin and gray like that of a person who has not seen sunlight for a long time. But his old eyes shone.

"I want to see the sun once more before I die," said he. "I have always liked the sun and the calm lake with the forest out here. Do you think you could carry me that far if I help myself all I can?"

Martina walked over and seated herself on the edge of the bed.

"What do you want out there?" she said.

Jacob looked at her with eyes which all at once became very clear.

"I want to die," said he. "And you are to help me. You mustn't be afraid because I ask you. It can't be hard to die. I haven't the strength to live any longer. And when I am gone, you won't have to make the rounds of the country to beg for my keep."

Again it seemed to Martina that the fear of the forest had followed her into the hut. She folded her hands—dry, old, and withered hands they were. She understood what the invalid wished; long before it was uttered, Martina seemed to have heard Jacob plead as now, and through the window she saw how the sun shone and how still the reed marsh lay.

"You are to help me into the boat," said the old man, "and push it out on the lake. Then you are to return here and see no more."

Jacob's eyes sought those of his wife as anxiously as a child asking to have its greatest desire fulfilled. And as Martina sat there, it occurred to her that things could not be otherwise. It was with this the forest had frightened her, it was of this she had been thinking where the Whitemoor ended and the rocky wall rose under the pines.

"When do you wish to go?" she said, and the tears trickled out of her old eyes.

"Now the sun is shining," said Jacob.

And again his voice held an impatient note like that of a child who does not want to wait.

"For two years I have been lying here thinking only of this."

Then Martina sat down by the window and thought as well as her understanding permitted her. She had never read much in books, nor did she know much. She sat thus a long while; Jacob lay quiet and did not disturb her thoughts.

At last Martina got up and saw that the sun was still up. Then, without saying another word, she took her old husband, with whom she had lived together more than a man's life-time, and raised him up in the bed. After that she carried him out of the hut and set him down on the steps. He had become thin and bony, and was not heavy to carry. There Jacob sat now looking at the sun, the forest, and the lake and all which had once been his.

"If you are able now, help me farther," he said at last.

Then Martina carried the crippled man to the shore and placed him in the boat. But when she had done so, she fell in a heap, took Jacob's hand, and could not speak.

"Now push out the boat," said Jacob softly, "and when that is done, go up to the hut and don't stay here. Take the book out there and read in it. God surely understands this, He, who knows how you and I have fared."

Then Martina took Jacob's hand and pressed it in farewell. Next she pushed the boat from land and waited on the shore until it reached deep water. Thereupon she went alone up the hill, and when she was in the hut, she took out an old book and tried to read. It was not the Bible. It was Thomas à Kempis. But to Martina both these books were the same, and other books she had never owned.

Half aloud the old woman read the unintelligible words of the book. Her reading was slow and faltering, but to her the common words which she found were strange. In her day one learned little in the schools, and most of what Martina had learned she had forgotten. Her thoughts wandered away from the words, and still Martina found a sort of comfort in these strange words, perhaps just because she understood so few of them. When she had read as long as she wished,

she put the book carefully back on the shelf. Then she went down the hill again and saw the boat floating empty on the water. Then Martina sat down by the shore, and what she thought and saw was more than she could straighten out. But Martina thought that she was thinking of Jacob's soul, of herself, and of all they had lived together. Simply and piously she recited the Lord's Prayer over the calm water in which the forest mirrored itself. And with that done, she returned to the hut, hung clean sheets in front of the windows and scattered fir needles on the path between the steps and the lake.

After that she went to bed and slept for the first time alone in the hut by the reed marsh.

When Martina came down to the settlement later to get help to find Jacob's body and bury him, she told all simply as it really had happened. But people believed she was telling a fairy-tale. Not until those accompanying her had found the sheets in front of the windows and seen the fir-strewn path between the steps and the lake could they believe that her strange tale was reality. And when at last Jacob's dead body lay ready in the bed where he had lain ill for so many years, many stood around him, more than ever had gathered before in the lowly hut.

Then all understood that what had happened here nobody was to know. What had happened was the secret of the forest, and none of those who knew it might disclose what they had seen and heard, and tell it abroad in the country. For what Martina had done she had done in ignorance and in distress. And such a thing was fit to be seen only here, where the forest stretched out for miles and the calm lake mirrored the forest.



Fru Nina Bang

A Lady with a Broom

By SIGNE TOKSVIG

“*S*AA kommer Fru Nina.”

This refrain from a Copenhagen comedy shows that the new Danish Minister of Education, perhaps the world's first woman cabinet minister, has captured the greatest popularity—ballad popularity. She did it in one ministerial stroke. The Royal Theatre of Denmark is an admirable, state-supported institution where the classics are kept alive, and good modern writers encouraged. It also has a fair opera company, an excellent *corps de ballet*, and a large deficit—nothing to compare even proportionately with the Chicago Opera, but still a worrisome fact. It has been the pin on the tabouret of every Minister of Education. There were no less than four contradictory directors, juggling the ball of responsibility, and a count by the name of Schack was the head. By the iron law of tradition, the head had to be a count, and, there being so few in Denmark to choose from, the chosen one did not always have a vocation for the theatre.

Fru Nina was scarcely in office before she had dismissed three of the directors, leaving one capable man by the name of William Norrie in sole charge. As for the count, she declared that he was an unnecessary vestige, or, as another popular song has it:

*“Hun si'er til Schack,
Nu skal De ha' Farvel og Tak.”*

(She says to Schack
Thank you now, and don't come back.)



Photo by Elfelt

NINA BANG, MINISTER OF EDUCATION

The count was really a very nice man who said he did not mind in the least being discouraged, though he hated to be called a vestige, but there is no doubt that as an institution he was a spider-web, and Fru Nina's large, new, efficient broom dislodged him for the great good of the theatre. The whole country, Radicals and Conservatives alike, enjoyed the joke on previous ministers, and chorused, "Why, of course, why didn't somebody else notice it? Four directors and an obligatory count. It was absurd!"

But this is not a fairy-tale by H. C. Andersen. Fru Nina and the newspapers did not live happily ever afterwards. There are spider-webs that everybody can recognize, and there are some that certain people see as immemorial lace-work. Such a one is the clerical inspection of schools. The Danish State Church and school are now wholly separate, the only vestige being that Lutheranism is taught in the schools, and the parish pastor has the right to control this by visits of inspection. The Teachers' Association has come out strongly against this, and so has Fru Nina Bang. In line with her conviction, she has appointed an unorthodox man as head of the State Training School for Teachers. His name is Vilhelm Rasmussen, he is a first-rate pedagogue of more than national reputation, his books have been translated into English, but he is indisputably a man who belongs to a later date than the Lutheran Reformation in Denmark of 1538. The Conservatives and Moderates who had taken Fru Nina to their bosoms when she swept out the Royal Theatre kicked her away again. They wrote about her more in anger than in sorrow and held up Hr. Vilhelm Rasmussen as just short of the devil. I got a small inkling of their feelings when I talked to a jeweler in a little town, a charming man and (or but) a Conservative. When Fru Nina Bang was mentioned, his fresh pink color faded, and there was real terror in his voice as he said, "Well, but—have you heard about this—this Rasmussen?" However, he added that allowances must be made for Fru Bang's biological handicaps, "She is, of course, feminine and impulsive."

Is she feminine? Oh, she is a woman with a grown-up daughter, but is she *feminine*? It was necessary to see her.

The Danish Ministry of Education is in a handsome old building on Frederiksholm Kanal, next to the most beautiful, long, sloping, red, luxurious roof in Copenhagen. That has nothing to do with the case, naturally, but I had time to think about that as well as other things while I sat waiting for the Minister. She had this in common with all the male officials I have ever had appointments with that I had to wait. Still, it was a significant anteroom. A nut-cracker portrait of Frederik VI. An eighteenth-century, dry-as-dust, mahogany air; irreconcilable with Socialist female ministers. Well, there was a tall, dim statue of a Greek goddess in a dark corner, but we all know that Athena is merely symbolical. Symbolical, also, the fact that the letter-scales on

the window sill had weights in the old pound and "qvint" measures when all the Danish schools now teach the meter and the kilogram.

The doorman was marvelously dignified, quite English in his erectness, his white hair, his whole slow, stiff manner. He resembled the late Bonar Law. But he saved the string that came around packages, unknotting it and hanging it carefully on the anachronistic radiator, and he was human and Danish underneath. He was equalitarian with me and with the grand bearded teachers who kept dropping in to ask for audience.

I passed the time in recapitulating facts. Nina Ellinger was born in 1866. She took her degree as master of arts, majoring in history, in 1889. She married the economist and historian, Dr. Gustav Bang, in 1894. He died in 1915. Shortly after their marriage the young couple offered their intellectual services to the editor of *Social-Demokraten*, long before Socialism was prosperous. For thirty years, now, Fru Nina Bang has contributed to this newspaper. Before the war broke out she wrote a long series of articles entitled: "The Serbian Prunes and the Serbian Pigs," in which she insisted that these humble facts would cause a great catastrophe if Austria-Hungary continued to prevent the Serbians from exporting these their most important products. Serbian exasperation broke out in the murder of Sarajevo. She has also written a magisterial work on the Sound tolls.

Fru Nina Bang taught history for many years, and her students say she could keep order and keep their affection too. At present she has enough to keep in order. The Minister of Education must supervise the schools, the state University, the state Polytechnic Institute, the museums, the art galleries, and the Royal Theatre. There is plenty of scope for a lady with a broom.

A bell startles the anteroom. It is my turn.

The room is wide and lofty, there are Turkish carpets, a conference table, walls of books, all highly ministerial, but no minister. Then she walks in briskly from another huge room, and, one, two, three, she has me seated where the light is on my face and she can question me at her ease. I have to push and shove and stem all that will to information, probably acquired in her own newspaper work, before I can get her to realize that *she* is being interviewed. But how perennially true it is that the camera always lies. No photograph that I have seen has done justice to her fine, clearly cut, sparkling face. There is not the least trace of heaviness in it, and her rosy complexion, her white hair, are everything that the most fashionable matron could desire. She is short and rather stout, but she carries it well in a straight black satin dress.

Her program? Is it true that she has said she intends to reverse the budget of her predecessor, and put the elementary school first and the University last?

Oh, no, not that way! No disrespect to the University, all she meant was that the elementary school is the necessary foundation for the splendid building on top which the University must be. But this broad, solid foundation is the task she intends to concentrate on, and for that reason she plans to increase the training time of teachers from three to four years; to devote more of that time to seeing whether the candidates are really fit to be teachers, "And then," her eyes gleam with battle, "we must get rid of that medieval business of having clerical inspection." She thinks religion ought to be made an elective subject in the schools, taught by special teachers to those who want it. And then there is the question of whether Jylland does not need a University of its own. And the question of housing the museums better, giving them more room; there is a whole Greenland collection that has not been unpacked yet.

"Feminine and impulsive"? Before that determined face, those glinting eyes, that cool, direct, final manner, I shudder to think myself into the place of some unregenerate teacher, male or female, about to be examined by her. It is with some timidity that I bring out the real question in my heart—was she appointed as a woman or as a Socialist?

The answer is sharp and definite, "I sit here because I am a sensible human being, and because those who appointed me think I can do my work."

If it were permitted to kiss the Minister of Education, I would brave the ice and do it. When there is work to be done, let there be no masculinists or feminists, let there be sensible human beings!

"I have a hard time," she says, "with certain women teachers who come to me complaining that this thing or that thing is being done to them or withheld from them simply because they are women. I don't say it isn't true sometimes, although in this country they are legally equal with the men in everything, but I do know that there are women teachers who find it a little too convenient to blame their inability to get their rights on the misfortune of their sex." She smiles. "You see, I am in no position to agree with them that women never get their rights."

And then the telephone rings. I remember the tall man with a forked beard in the anteroom who was so anxious to see the Minister, I remember all the surging demands on this calm tradition-breaker in this dark building, and I leave quietly while Fru Nina Bang is extending her common sense over the telephone wire.

Something tells me that the dignified doorman needs all his training under these upsetting circumstances. He is reading *Berlingske*.

But Fru Nina has come to stay.

Erica

*It was Eric the Red, so the Sagas say,
Who was first of the Vikings to find the way
Through the fog and ice of the frigid North
To find the land he named "Greenland," by Eric's-Forth.*



ERIK NELSON

*It was Eric's son Leif—the "Lucky Leif" called
In the Saga once sung by many a skald—
Who was first to discover our "skraeling" shores
In his single-sail ship with its spuming oars.*

*It was Eric the Flyer, in sail-winged plane,
Who was one of the planet-encircling twain
To alight, like the eagles from Jotunheim,
With their pinions outstretched and covered with
rime.*

*So here's to the Erics of sail and wing,
The Vikings of farthest adventuring.
From their mist-guarded coastlands of Erica
Stretches "Vinland the Good"—our America!*

—FIONNLEAGH

THE LAST OF THE ERIKS

"Vikings of the Air" is the name the *New York Times* applied to the American Round the World Flyers, who followed the track of Eric the Red and his son Leif the Lucky on the last lap of their journey, from Iceland to Greenland, and from Greenland to the North American coast. It is particularly fitting that one of those who completed the Flight should be a descendant of the North, another Erik. Lieutenant Erik Nelson was born in Sweden, and before he emigrated to America fifteen years ago, followed the sea. His skill as mechanic secured him a job in the Curtiss Aeroplane Factory, and when we entered the war, he became an army aviator, spending most of his time as instructor. He was one of those chosen for the Berlin night raid which did not come off, as the Armistice intervened. In 1920 he took part in the American air expedition to Alaska. Lieutenant Nelson's companions on the flight call him "the Old Viking." His mother still lives in Stockholm, and has followed the progress of the Flight with keenest interest, tracing the course of the flyers on the map, and preserving every bit of printed matter regarding the high adventure in which her son took part.

Current Events

U. S. A.

¶ With only a few weeks remaining before the Presidential election is decided, the campaign has now entered the stage of its greatest activity. That the issues are sharply drawn is seen both from the acceptance speeches of the candidates, and the further appeals made by them to the country at large. For the first time in history the radio is being employed in a Presidential election campaign. Its usefulness during the several nomination conventions established the wireless method as superior to many means formerly employed for such a purpose. ¶ Wider in their scope than any former gatherings of the Institute of Politics, this year's conferences at Williamstown, Mass., were productive of much valuable discussion, much of which contrasted strikingly. The range of topics before the conferences took account of the world situation to the fullest extent, and disarmament, international finance, the Monroe Doctrine, Russia, and scores of other subjects were discussed pro and con by prominent speakers. ¶ The arrival in the United States of the Prince of Wales during the closing days of August, while entirely unofficial, nevertheless proved an event of great public interest. The visit to Washington of the British heir, as the guest of President and Mrs. Coolidge at the White House, preceded his attendance at the International Polo games on Long Island and was preliminary to the Prince's journey to his Canadian farm. ¶ A survey recently completed by the University of Wisconsin showed that more than 400 women occupy municipal offices in that state. This is pointed to as evidencing the increased active service rendered by American women in government. ¶ With the death of M. Quad, famous humorist, whose real name was Charles B. Lewis, there passed away the last survivor of that school of wit which a generation ago included Eugene Field, Bill Nye, and Artemus Ward, to mention some of the more prominent. Among M. Quad's creations perhaps his "Brother Gardner," of the Lime Kiln Club will linger longest in the memory of those who delighted in the antics of the humorist's many quaint characters. ¶ As a stimulus to dramatic effort, the \$100,000 set aside by John Golden for the discovery and production of three prize plays is an event of more than passing interest. The selection by a jury of two hundred dramatic reviewers is not the least striking feature of what promises to be a unique contest. In excluding musical comedy, tragedy and "sex" plays, Mr. Golden merely emphasizes his desire to see such successes as for instance *Lightnin'*, repeated through serious consideration of American talent furnishing the requisite manuscripts. ¶ It is rumored that Carnegie Hall in New York is to be razed and give place to an office building.

Norway

¶ The new Premier, Johan Ludwig Mowinckel, made the following statement regarding the policy of the Government in the Storting July 28: The Government considers as its first and most important task to strengthen the finances and the economy of the country. The Government will endeavour to promote the prosperity of industry, sound labor conditions, and social reconciliation, realizing that this is an absolutely necessary condition for the economic restoration and the progress of the country. The Government will do everything in its power to carry out strict economy in the administration. The Government will with a strong hand maintain existing laws and preserve order. ¶ In the debate on the Government declaration of policy, August 5, the Premier said that the government had every reason to be satisfied with the reception it had received in the press, and from the people and the parliament. The leader of the Conservative party, Ivar Lykke, assured the Government of loyal support in the work of strengthening the economic position of the country. The debate concluded without any vote. ¶ The Storting was prorogued by the King, August 12, and the general election takes place in October. Immediately after the ceremony of prorogation one of the Communist members of Storting, Eugène Olaussen, was arrested and put in prison to serve a punishment of 75 days for revolutionary propaganda. ¶ A commercial treaty between Norway and Latvia, based on mutual most favored treatment, was signed at Kristiania August 14 by the Norwegian Foreign Minister and the Secretary-General of the Latvian Foreign Office. ¶ The Norwegian Government has concluded a loan of 25 million dollars with the National City Company, New York. The interest is 6 per cent, and the loan is to be repaid within 20 years. The money will chiefly be devoted to the reimbursement of some provisional loans. ¶ The customs revenue of Norway amounted to 116,000,000 kroner in the financial year 1923-1924. This is 6,500,000 more than estimated in the budget. ¶ According to the official statistics the total freights of Norwegian shipping in 1923 amounted to 481,000,000 kroner, an increase of 20 million compared to 1922. ¶ A world congress of the International Federation of University women was held at Kristiania in the last days of July, about 400 delegates attending. Miss Virginia Gildersleeve, dean of Barnard College, New York, was elected president of the federation. ¶ On July 29, the Saint Olav day, King Haakon attended the religious festivities at Moster, western Norway, to commemorate the introduction of Christian law in Norway, 900 years ago. ¶ The two Houses of the Storting, the Odelsting and the Lagting, have passed a bill establishing a new diocese with Stavanger as the episcopal seat. The Norwegian State Church will thus in future have seven bishops. Funds for the new bishop's salary have in part been pledged in Stavanger.

Denmark

¶ A matter of outstanding interest with regard to the Social-Democratic government's announced plans is the determination of the new Minister of Defenses, L. Rasmussen, to persevere with his disarmament proposal, which he expects to place before the next Rigsdag. The plan calls for the virtual abolition of the Danish army and the organization of what will amount to only a police force for the country. There is every reason to believe that when the question comes before the Rigsdag it will lead to heavy debating, since it is known that some of the leading military experts are prepared to voice their opposition to the Rasmussen scheme. ¶ While the reduction of the Danish navy to a minimum is also contemplated by the sponsor for disarmament, it is understood that the air force is to be greatly strengthened on the most advanced lines. ¶ With the Minister of Defenses much in the public eye at the moment, no less interest attaches to the activities of Fru Nina Bang, in charge of the Department of Education. Fru Bang, who has long been associated with the progressive movement in Denmark, is reorganizing certain of the schools, so that their administration is made directly attributable to the people through the popular election of school commissioners. In the past the parish ministers were perpetual members of the school boards. Fru Bang points to South Jutland as an example where the new system in school administration works advantageously. ¶ Danish agricultural science has been paid a high compliment by those interested in American agriculture through the action of the Rockefeller Institute which has obtained from the United States Department of Agriculture the services for a certain period of F. P. Lund, the Danish-born expert, who is investigating conditions in the Scandinavian countries with a view to the Institute's making Denmark a center for education in farm science. ¶ That Canada is desirous to obtain Danish settlers was voiced by John Martin, Canadian Minister of Agriculture, who on a visit to Copenhagen declared that he had been negotiating with the Danish authorities to that effect. Canada, it appears, is ready to accommodate any number of Danish immigrants and settle them on first-class soil near railways on favorable terms. Mr. Martin called the Danish immigrant the most desirable type. ¶ Another Canadian visitor to Denmark whose presence at Copenhagen may have a good deal to do with the Danish tourist business next year was Director Beatty, of the Canadian Pacific Railroad, who is investigating what the country has to offer in the way of attractions. Director Beatty expressed himself in the highest terms about what came to his notice, and he stated that plans were under way for sending several Canadian steamers to Denmark next season. He also suggested that Denmark should do more to call the world's attention to its special features as a vacation land.

Sweden

¶ At the present time of writing, the elections in Sweden are still pending. The campaign is one of the hottest the country has ever known, and the issues are sharply drawn. The battle is between Conservative principles and the ideals of moderate progressive Socialism, and both sides have strong and able leaders. The Conservatives look to the energetic and capable prime minister, Ernst Trygger, to conserve the principles by which Sweden has waxed great, and to protect the country against outside aggression by an adequate defense. The progressives hope for the return to power of Hjalmar Branting, an international spokesman for peace and disarmament. The followers of Branting have been much encouraged by the news of the proposal for disarmament which has come from Denmark. ¶ The Swedish Communists have drawn on themselves the laugh of the country by a dilemma which threatens to split the party once more. The editor of their organ, *Folkets Dagblad*, the chief Bolshevist paper in the Scandinavian North, has refused to obey orders from Moscow and therefore has been obliged to publish in his own paper a disavowal of the opinions he has expressed editorially. Mr. Höglund believes, and no doubt is right in believing, that an attempt at revolution in Sweden just now would not have the smallest chance of success but would lead to the dissolution of the Communist party. This has provoked the wrath of the bosses in Moscow. As leader of the Communist party in the Riksdag Kilbom has been pointed out. ¶ During the past summer several interesting excavations have been going on. One of the most important is that carried on at the old Folkunga castle Ulvåsa in Östergötland; once the home of St. Birgitta. It is now a ruin quite overgrown with vegetation. At Visby excavations have brought to light various things dating back as far as 2,500 B. C. A human skeleton has been dug up on the great market place together with some curious articles made of the horns of deer and other things. ¶ During the month of August the Twenty-first International Congress of Americanists met at Göteborg. It was the first meeting after the war. The Swedish city was chosen, not only from the desire to find neutral territory, but also because it possesses some very valuable Americana in the form of archeological and ethnographic collections. ¶ The old European bison ox, which before the war existed only in the forests bordering certain lakes in Poland, has now found a refuge in Sweden. The race was practically made extinct during the war, but three specimens were saved and brought to Skansen park near Stockholm. There they seemed to thrive, and their number increased. Now three young bisons born in Sweden have been taken to the vicinity of Långsjön in Vestmanland, where a large area has been set aside for them. It is hoped that they will thrive in this comparative freedom.

The American-Scandinavian Foundation

For better intellectual relations between the American and Scandinavian peoples, by means of an exchange of students, publications, and a Bureau of Information—

Officers: President, Hamilton Holt; Vice presidents, John G. Bergquist, John A. Gade and C. S. Peterson; Treasurer, H. Esk. Möller; Secretary, James Creese; Literary Secretary, Hanna Astrup Larsen; Counsel, Henry E. Almberg; Auditors, David Elder & Co.

Government Advisory Committees: *Danish*—A. P. Weis, Chief of the Department of the Ministry of Education, Chairman; *Norwegian*—K. J. Hougen, Chief of the Department of Church and Education, Chairman. The Swedish Government is represented in the Swedish American Foundation (below).

Co-operating Bodies: *Sweden*—Sverige-Amerika Stiftelsen, Malmorgsgatan 5, Stockholm, Svante Arrhenius, President; Ira Nelson Morris, Honorary President; J. P. Seeburg, Honorary Vice-President; Eva Fröberg, Secretary; *Denmark*—Danmarks Amerikanske Selskab, M. I. T. C. Clan, President; N. Feilberg, Secretary, Stjerneborg Alle 8; *Norway*—Norge-Amerika Fondet, Lille Strandgade 1, Christiania, K. J. Hougen, Chairman; Sigurd Folkestad, Secretary.

Book Publication

A dozen years ago the book publishing activity of the Foundation was an experiment. In the years that have passed this department of the Foundation's activity has settled along firm, clear lines. The experience of the Committee on Publications offers some surprises, but these surprises, in the main, bear out the policy originally formulated by the first Chairman, Professor Schofield, when he insisted that the SCANDINAVIAN CLASSICS should be classics in the true sense of the word.

It has been said before, but it can bear saying again, that Americans need to revise their ideas about what constitutes a "classic." It is too often supposed that classics are, if not actually what Charles Lamb designated as "books that are no books"—in which category he listed "in general all the books that 'no gentleman's library should be without'"—still that they are abstruse, finespun, and in short "highbrow," than which there is no worse anathema. The truth is exactly the opposite. A classic is a book that has the power to charm and interest a great variety of people of different mental horizons and varying degrees of culture. It may have all the local color the author can give it, but it does not depend for its actuality on a knowledge of the latest slang and the last allusion. It must have

the sturdiness of fibre that makes it endure.

Of such fibre is "Father" Holberg, whom both Norwegians and Danes regard as the head and fount of their modern literature. He pictured the Copenhagen of his day, but his sallies apply to New York, and only last year a dispute about a word in his text precipitated a discussion as to what Holberg would have thought of Soviet Russia could he have been privileged to behold its phenomena. That SCANDINAVIAN CLASSICS should begin with Holberg was almost inevitable, but perhaps not the most optimistic member of the Committee on Publications expected that this eighteenth century playwright should be quoted in the New York daily press, that the edition of his plays should be sold out and have to be reprinted, and that a second Holberg volume should be in demand. This has been one of the pleasant surprises.

Perhaps no one of the books of the Foundation exemplifies the universality of the true classic better than *The Poetic Edda*. It has held its listeners spellbound before there was such a thing as printing; it has whiled away the lonely hours of shepherd boys in Iceland; and it has delighted scholars in Europe and America. Nevertheless, it took some courage for the Committee to resolve on embarking our whole publishing venture

for the year in this big double volume of nearly six hundred pages, heavily freighted with formidable but necessary notes. Happily, the faith of the Committee and of Mr. Bellows, the translator, has been justified. The first edition of the *Edda* is nearly exhausted.

Our CLASSIC of this year, *Norwegian Fairy Tales*, offers some parallels to the *Edda*. Though of much more recent origin and in prose, not verse, the fairy tales, like the *Edda*, have been the property of the whole people and have been kept alive by word of mouth for centuries before being committed to writing. They rival *The Poetic Edda* and the Bible in the frequency with which words and images from them occur in modern Norwegian literature and in the common speech of the people. It is particularly appropriate that *The Poetic Edda* should be followed in the CLASSICS series by the fairy tales which bridge the gap between the Eddas and sagas of the Old Norse and the great works of modern Norwegian authors.

In the other CLASSIC of the year, *America of the Fifties: Letters of Fredrika Bremer*, the Committee on Publications is making a new departure. Fredrika Bremer was more highly gifted as a journalist than as a novelist, and her letters are the highest form of journalism, wise, humorous, and written in such a fresh and graceful style that they are classics of their kind. Of their historical value, Mr. Henry A. Bellows will speak in an article which he has written for the November number.

Activities of Fellows

Henning Larsen, Assistant Professor of English at Iowa University, has returned from Norway, where he studied Old Norse literature with a fellowship from the Foundation. Last spring Mr. Larsen went, with the sanction of the Foundation, to Ireland to transcribe and interpret an Old Norse manuscript that

has been preserved in Dublin and is a relic of Old Norse occupation. The existence of the manuscript, which is an old leech-book, has for some time been known to Professor Marstrander of the University of Christiania, and Mr. Larsen went at his request. To aid in financing his trip, he received a grant from the Nansen Fund for Scholarly Research. As far as we know, he is the first foreigner to receive a stipend from this fund.

Chris. L. Christensen, fellow of the Foundation to Denmark in 1921-1922, has been appointed Agricultural Economist with the United States Department of Agriculture and has been put in charge of the Division of Agricultural Co-operation. Mr. Christensen, after his return from Denmark, where he studied co-operative agriculture, has been doing graduate work at Harvard.

Northern Lights

Percy Grainger and Northern Music

The pianist, Percy Grainger, before leaving early this summer for his native country, Australia, announced that he hoped some time to arrange a series of concerts in which Scandinavian and Anglo-Saxon composers should be represented under the title "Concerts of Nordic Music." Mr. Grainger, from his early youth, has made regular concert tours to Norway, and knows modern Norwegian well enough to write his own translation from Grieg's songs. He is also a student of Icelandic and would like to see it replace the study of Greek and Latin, and even of modern European languages, in the schools of the English-speaking world. "My personal reasons," he writes, "are rooted in the fact that the most inspiring, life-giving, and satisfying adventure of my life, the one wielding the most determining sway over my work and standards as a creative artist, as well as upon my actions and character as a man, has been the gradual

unfolding before me of the Icelandic racial spirit, as revealed to me through my growing familiarity with the Icelandic language. The effortlessly heroic keynote struck alike by the best and the worst personages of the sagas has always seemed to me to sound a bugle-call to soldierly endeavor, in work or in life, to which it is impossible to turn a deaf ear. The metallic vividness of life, as depicted in the old tales, has brought to me always a windswept invigoration more refreshing even than that to be had from contact with the very wilds of virgin nature herself. The very essence of great mountains, austere deserts, and briny oceans seems concentrated down to the most intense point in the old Norse humanity, in which these elements of nature seem to move in spiritualized forms."

Hamlet's Mother

Was Queen Gertrude the wicked, treacherous woman we have been accustomed to believe her, or was she a self-sacrificing mother? The latter view is taken by the New England writer, Lillie Buffum Chase Wyman, whose romance *Gertrude of Denmark* has just appeared under the imprint of Marshall Jones. Mrs. Wyman represents Gertrude as the victim of circumstances, who, upon the death of her husband, consents to become the wife of King Claudius on condition that he proclaim the young Hamlet heir to the throne. Her motives are only those of a loving mother. Thus another problem is added to that of the Prince of Denmark whose sanity has engaged the attention of Hamlet critics so long.

The author of the book is a niece of Rebecca Spring, Fredrika Bremer's American friend, and has always taken a keen interest in the Swedish author and feminist.

Books

ICELANDIC MEDITATIONS ON THE PASSION

Selections from the Passion Hymns of Hallgrim Petursson Translated from the Icelandic by Charles Venn Pilcher, D.D., Longmans, Green and Co., New York, \$2.00.

The appearance of these translations of Hallgrim Petursson's Passion-hymns is an event to all lovers of Icelandic literature. Dr. Pilcher has approached his work in a spirit of reverence and enthusiasm and has succeeded in carrying over the thought content and recasting the form within the traditional patterns of English verse.

Hallgrim Petursson's history is a sombre romance out of Iceland's past. His life, like his hymns, was a mixture of sorrow and of exaltation. Son of a bell-ringer at Holar Cathedral, a blacksmith in Copenhagen when he was discovered by Bishop Brynjolf Sveinsson, married to a woman whose Mohammedan tendencies, acquired in a ten years' captivity in Algiers, were a thorn in his side, always struggling with poverty, the last seven years of his life a losing battle with leprosy, Petursson's religious poems are ecstatic stanzas in a life that was a litany to the stern Lutheran faith. Legends have grown up around his name. The folk of his Iceland credited him with magical powers. He had indeed the power over language that invests everyday speech with a hue of magic. His hymns on Christ's Passion constitute a classic of Icelandic religious literature.

Icelandic literature owes a lot to the clerics. These religious poems are links between the old bards and the modern poets. For the flame of Icelandic poesy did not die with the passing of the old skalds. It has lived on through dark centuries and burns with renewed brilliance to-day. Hallgrim Petursson is a voice out of Iceland's night, the chilly night of the 17th century, when the spirit of the island people flickered dimly. Out of that Iceland, cut off from the world by

barriers of distance and the ice of indifference, rises Petursson's passionate religious song. His *Up, Up, My Soul* stirred again in the Saga Isle the ashes of an ancient fire.

E. H. C.

HAMLET'S ANTIQUITY

The Literary History of Hamlet: I, The Early Tradition, by Kemp Malone, Ph.D. Carl Winter's Universitätsbuchhandlung, Heidelberg, 1923.

The history of Hamlet during the centuries preceding the chronicle of Saxo Grammaticus has been a scholastic battleground wherein no one has been able to claim clear victory. Certainly the story of Hamlet, or Amleth, reaches far back into the legendary past of the Germanic races, but no one has hitherto been able to trace its development with any approach to definiteness. Professor Malone, in this first part of what promises to be a monumental treatise in three sections, has for the first time subjected all the material which by any possibility bears on the subject to thorough analysis, and has evolved an exceedingly interesting theory, supported by an impressive mass of philological, literary, and historical evidence.

The main thesis of the book—the identification of the earliest form of the Hamlet tradition with the Swedish king Onela, mentioned in *Beowulf*—is admirably handled, and the explanation of the name, with its devious journeys to Ireland and thence by way of England back to Denmark, as “mad Ole,” is so ingenious and so well buttressed by philological evidence as to be reasonably convincing. Some of the later identifications, such as the Egill-Angantyr-Orvendill combination, to account for Hamlet's father, seem less conclusive, though by no means impossible; Professor Malone is inclined to use as stepping-stones to his conclusion premises which roll a bit beneath his feet. As for what he calls “the identification of Helgi and Amleth,” it is difficult not to feel that his enthusiasm has carried

him unreasonably far afield. There are striking parallelisms, indeed, but the main motives of the Hamlet story turn up startlingly in many and utterly unrelated narrative cycles.

Professor Malone's examination of the Hamlet material has been so exhaustive that his work is likely to stand as the enduring basis for all future scholarly discussion of the subject. His conclusions may not in every case stand the test of critical analysis, because his zeal for identifications apparently has led him to overlook the ease with which narrative traditions passed from one character to another. This, however, in no way affects the real value of his collection and presentation of the earliest evidence, or his conclusive demonstration of the fact that centuries of tradition, part historical and part mythical, underlay the familiar story as related by Saxo.

Unfortunately, the very scholarliness of the book is likely to frighten away many readers who would be vastly interested in its general thesis and conclusions. If the two volumes yet to be completed are equally thorough in their method, it is to be hoped that Professor Malone will parallel the entire study with a condensed treatment in more popular style, for the benefit of those whose curiosity regarding Hamlet's literary ancestry quails before pages of English-Irish-Danish-Norse linguistics.

It is significant that such a work, though in English and dealing with a tradition which has adopted the nationality of Shakespeare, should have had to seek Germany for a publisher. Such a genuine contribution to international scholarship would have done credit to any American publishing house, which could have given the book a form more in keeping with American and English traditions of typography. But apparently linguistic and literary scholarship is still something of a homeless orphan on this side of the Atlantic.

HENRY ADAMS BELLOWS.